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ALBERTA NATURALIST

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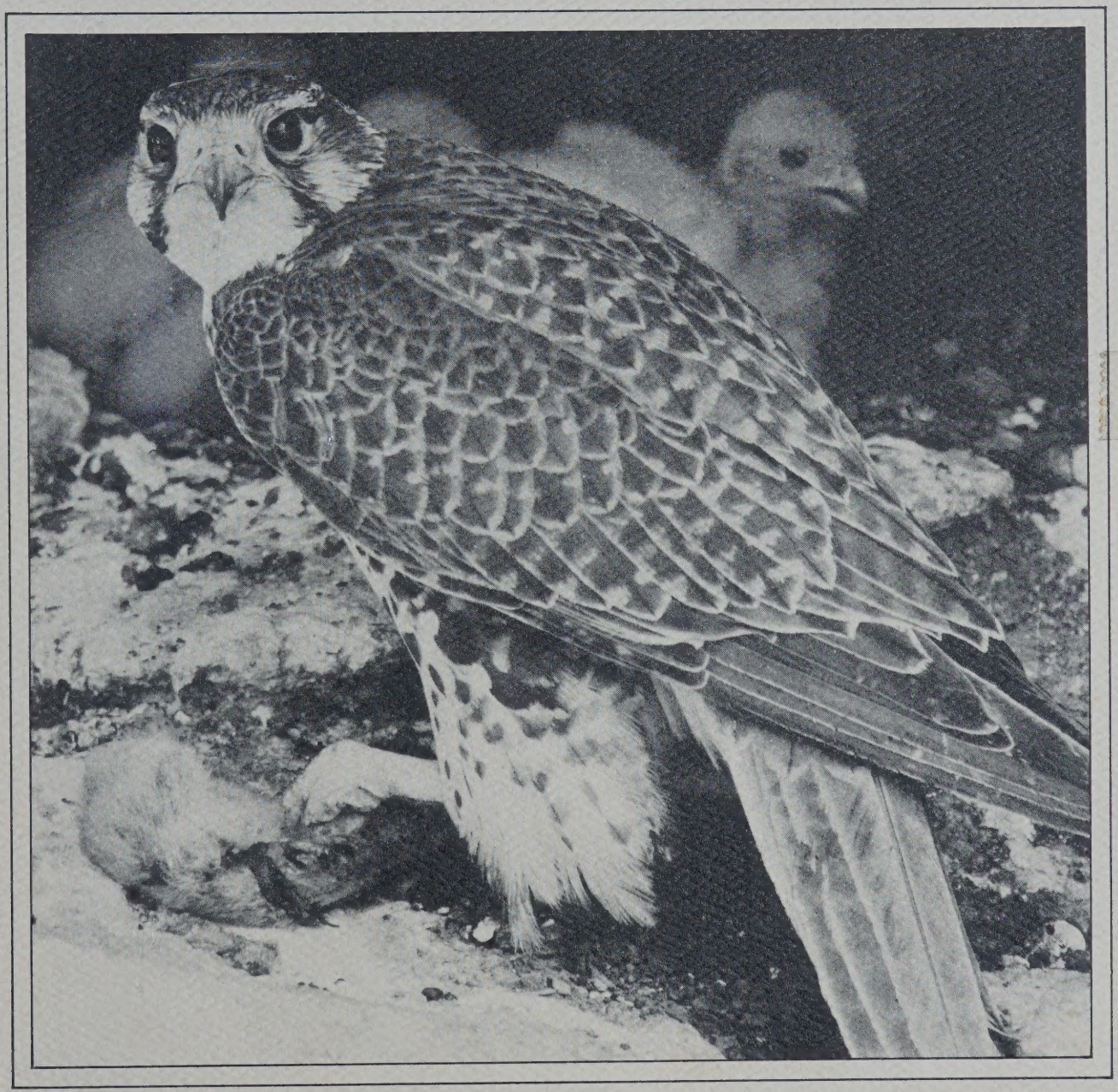

Photo: Kay Morck

"Prairie Falcons in the Rocky Mountains." *See article page 48.*

ALBERTA NATURALIST

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CONTENTS

Trumpeter Swans northeast of Edson. *Wayne Nordstrom* 45

Prairie Falcon Sightings in the Rocky Mountains of Alberta. *Dick Dekker* 48

Peregrine Falcon Sightings in the Rocky Mountains of Alberta. *Geoffrey L. Holroyd* . 50

Black-and-white Warblers in Maligne Valley, Jasper National Park. *Jim R. Salt* 51

Some Significant Winter Bird Observations for Waterton Lakes National Park. *Bill Merilees* 52

Golden Eagles at Beaverhill Lake, Alberta, 1964-1983. *Dick Dekker* 54

Ravens Nesting Near Athabasca, Alberta. *Gerald Ryan* 55

Unusual Bird Sightings Winter 1983-1984. 55

Incidental Wildlife Observations in Waterton Lakes National Park. *Maude Eaton.* 56

Sunflower Seeds Used by Birds. *Cam Finlay* 56

FAN News, Notes and News, Announcements, Club News 58-66

Results of the 1983 May Day Count (Plants). *J. Derek Johnson* 67

1983 May Species Count: Birds. *Allen N. Wiseley* 71

Game farming in Alberta 74

Alberta Highs on 1982 Bird Banding. *Martin K. McNicholl* 75

Naturalists' Bookshelf
Prairie Wildflowers. *J. Derek Johnson* 76
Weeds of Alberta. *J. Derek Johnson* 77

Recent Publications on the Natural History of Alberta. *Compiled by David M. Ealey and Martin K. McNicholl* 79

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DEADLINES for submission of material for regular issues are: February 1, May 1, August 1 and November 1. All maps and charts should be submitted on 8½" x 11" (or 7" x 8½") white bond. Please indicate in light pencil any data which are to be typed on charts, maps, etc. Black and white photographs or slides, as well as line drawings, are most welcomed. Please include your complete mailing address with submissions of material.

DEADLINES for FAN project reports are: *Alberta Christmas Bird Counts,* January 15, and *May Species Count – Plants,* July 15, J. Derek Johnson, Northern Forest Research Centre, 5320 – 122 St., Edmonton, AB. T6H 3S5; *May Species Count – Birds and Mammals,* July 15, Al Wiseley, 202 – 635 – 56 Ave., S.W., Calgary, AB. T2V 0G9. Compiler cooperation is greatly appreciated.

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Aptly named for their loud characteristic voice, Trumpeter Swans are hard to distinguish from the much more common Tundra Swan, which is smaller and usually features a yellow spot at the base of the bill.

Photo: C. Wallis

Trumpeter Swans Northeast of Edson

Wayne Nordstrom

Swans have inspired many individuals, from those who have intensely studied their biology and their ecological relationships, to those who enjoy them for a variety of other reasons. Two species of swan occur in Alberta: the Trumpeter and Tundra (formerly Whistling) Swan. Identification can be somewhat of a problem, particularly if some of their characteristics are absent at the time of observation (Godfrey 1966). Since Tundra Swans nest outside of Alberta, it is a fairly safe assumption that any swans remaining in the Province after May are probably Trumpeters (Salt and Salt 1976).

Trumpeter Swans have been known to nest in the Grande Prairie area of Alberta for some time and swan surveys have been conducted for nearly 20 years by local natural history groups, the Fish and Wildlife Division and the Canadian Wildlife Service. The census area is about 80 by 130 km in size and is located on about 45 different lakes over the years. Most of the lakes are less than 200 hectares in size and will support only one pair of nesting Trumpeters because of their aggressive territoriality. Fifteen lakes receive consistent use by the birds. The number of adult pairs with broods has ranged from 2 (1965) to 31 (1977), averaging about 10 pairs. Swan populations have varied from 53 birds in 1958 to 167 in 1977, and appear to be gradually increasing in numbers. On September 1, 1977, 167 Trumpeters, composed of 31 pairs, 80 cygnets, and 26 non-breeding birds were counted on 113 lakes surveyed (Canadian Wildlife Service files). Surveys in 1981 found 22 nesting pairs.

The success of the Alberta population of Trumpeter Swans is dependent upon about 20-30 producing females. According to the Alberta Fish and Wildlife Division the total North American population of this species is approximately 5,000, consisting of about 4,000 from Alaska and 1,000 from the interior population. The Grande Prairie flock contributes about 200 birds to the latter population.

Although the Trumpeter has been observ-

ed in a number of different habitats, its actual breeding requirements are fairly limited (Banko 1960). They include: (1) lake water levels that do not exhibit marked seasonal fluctuations, (2) quiet waters of lake, marsh, or slough, not waters subject to obvious current or constant wave action, (3) shallow waters of lake or open marsh, not so deep as to preclude digging and foraging for aquatic plant parts, roots, tubers, etc., and (4) isolation and security if not accustomed to man's presence and his activities.

Occasionally, suitable habitat is available that attracts Trumpeters outside of the traditional nesting area around Grande Prairie. During the spring of 1979, while conducting biological inventories for Alberta Recreation and Parks, a pair of adult Trumpeter Swans were observed in an area about 25 km northeast of Edson. This area is about 230 km southeast of the traditional Trumpeter Swan nesting area at Grande Prairie. It includes Bear, Horseshoe and Long Lake, plus a number of other smaller water bodies. It was on one of these smaller water bodies, known locally as Tie-Camp Lake, that the swans were observed. This isolated lake exhibits all of the four characteristics mentioned previously for successful breeding habitat. Additionally, the areal extent of Tie-Camp Lake (32 hectares) is well above the minimum size of water body preferred by Trumpeters, according to Banko (1960).

Tie-Camp Lake is located a short distance west of Bear Lake, is roughly oval in shape and is less than 0.8 km wide at its widest point. Maximum depth is about 8 km. Bathymetric contour slopes are most abrupt from the two to seven meter depth, the remaining lake bottom has relatively gentle gradients. Approximately 1/3 of the lake is less than two meters deep and a substantial portion of the northeastern side is less than one meter in depth.

Water drains slowly into Tie-Camp Lake through adjacent fen and bog systems and leaves by a small outflow drainage on its western side. Over 75% of the shoreline lies adjacent to fen wetlands, the remaining abuts on coniferous-dominated mixed wood till uplands. Offshore substrates are primarily organic in composition. A substantial portion of the wetlands bordering the lake are of the floating fen type, comprised of various sedges and buck-bean. Other floating aquatic and emergent vegetation consists of yellow pond lily, arrowhead, bulrush and cattail. A large floating mass of vegetation protrudes into the lake from the northeast side and it is to this location that Trumpeter Swans are attracted for breeding purposes.

Tie-Camp Lake has been used for nesting purposes by Trumpeter Swans since the inception of inventory work in the spring of 1979. The birds were probably using the area prior to that date according to reports from local landowners.

The following chart briefly outlines Trumpeter Swan observations at Tie-Camp Lake:

Date	**No. of Birds**
16 May 1979	2 adults
30 May 1979	2 adults, probably nesting
19 July 1979	2 adults and 3 young (S.Brechtel, pers. comm.).
3 June 1980	2 adults, nesting
21 Aug. 1980	2 adults and 6 young (photographed)
2 June 1981	2 adults nesting
summer, 1981	3 cygnets observed by a local cottage owner (C. Hunt, pers. comm.).
26 May 1982	2 adults nesting
17 June 1983	2 adults and at least 3 young

Trumpeters have also been observed on some of the nearby water bodies, but not for nesting purposes. Five adult birds were seen swimming and feeding on a small water body immediately south of the Horseshoe Lake on June 3, 1981. This may have been a small migratory flock or possibly year-old birds returning to their natal territory (the previous year six cygnets were observed on Tie-Camp Lake in August). It is not known if these adults stayed in the area for the remainder of the 1981 summer. Adult Trumpeters have also been observed on Horseshoe Lake but it is suspected that they utilize the resources of Horseshoe in addition to those at Tie-Camp.

The floating mat of buck-bean and sedge jutting into the northeast end of the lake provides an ideal nesting location, offering protection, food, isolation, and good visibility. Territories are generally established where they existed the previous year, often with ex-

Nesting Trumpeter Swan on Tie-Camp Lake near Edson, May 1982. Photo: Wayne Nordstrom

actly the same nesting site occupied. Banko (1960) indicates that if the former nesting site is missing or unusable for any reason, the swans select another location within essentially the same territory. This behavior was also observed at Tie-Camp Lake.

Nests appear to be located so that all or part of the nest site is bounded by an open channel of water. This is probably due in part to removal of vegetation for nest construction.

Although muskrat houses are often the preferred nesting location for Trumpeters (Mackenzie 1977), this is usually not the case at Tie-Camp Lake. Here, nests are rebuilt each year, either on the well-decomposed remains of the previous year's nest, or on a completely new substrate.

From the limited information available, hatching of young at Tie-Camp Lake appears to occur about the second week of June. This date generally agrees with what has been reported by Mackenzie (1977) and Palmer (1976).

Hatching success and productivity of Trumpeter populations are influenced by a variety of factors, originating from either purely natural causes (predators, egg failure, disease, parasites, etc.) or from man-induced disturbances (nest abandonment, stress, etc.).

Trumpeter Swan populations are only recently beginning to increase as a result of more public awareness of these birds and of improved protection of their breeding habitats. As of April 1983, Trumpeter Swans were still listed as a rare species by the Committee on the Status of Endangered Wildlife in Canada. Trumpeters, unless in constant contact with man, show a pronounced tendency to be alarmed by his presence and keep a safe distance. The critical factors involved in tolerating man's activity on or near a breeding territory seem to be related to the degree and regularity of that activity (Banko 1960). Nesting Trumpeters on Tie-Camp Lake, because of their relative isolation, do react to the presence of man by quickly becoming alarmed and leaving the nest site if disturbed. It is important that this disturbance factor is recognized so that the future productivity of this species in the area is not jeopardized.

Tie-Camp Lake with its nesting Trumpeters offers another opportunity to preserve a unique and valuable resource within the province of Alberta. Are we prepared to meet that opportunity?

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Prairie Falcon Sightings in The Rocky Mountains of Alberta

Dick Dekker

Prairie Falcons (*Falco mexicanus*) are usually associated with "arid plains and steppes of interior North America, wherever cliffs or bluffs are present for nesting sites" (Brown and Amadon 1968: 834). The breeding range in Alberta is restricted to the southern prairies and foothills up to the latitude of Red Deer (Salt and Salt 1976), although there are a few nesting records from the North Saskatchewan River Valley roughly 50 km SW of Edmonton (G. Erickson, pers. comm.). I reported 31 sightings of Prairie Falcons at Beaverhill Lake (Dekker 1983), about 150 km north of the known breeding range, where I recorded 4 additional sightings in 1982 and 1983 (unpublished field notes). A recent wildlife inventory

Prairie Falcon eyrie on the clay banks of a southern Alberta river. The young falcons are being fed a ground squirrel.

Photo: Edgar T. Jones

of Banff and Jasper National Parks includes 19 sightings of Prairie Falcons, all after 1975 (Holroyd and Van Tighem 1983). The "Checklist of the birds of Banff and Jasper National Parks" classifies Prairie Falcons as "rare" from late July to late September (Van Tighem and Holroyd 1982).

This note gives information on 14 sightings of Prairie Falcons recorded by me in Banff, Jasper and Willmore Parks between 1959 and 1983, and on 12 additional sightings from the Rocky Mountains by other observers.

In one of my sightings, two falcons were observed in an aggressive or playful encounter. In the others, single falcons were viewed for 2-30 minutes through 10x50 binoculars. In all reported sightings, I noted the black axillars diagnostic of the species (Godfrey 1966). When over alpine tundra (about 2,000 m), the falcons were often soaring and gliding. Some falcons observed over montane meadows travelled in flapping flight or perched on spruce trees. On two occasions, a falcon swooped at flying small passerine birds. Another falcon was holding a small bird in its feet.

Locations and dates of the sightings are as follows:

Bow Summit, 30 July and 10 August 1959; 2 and 21 August 1960.
Egypt Lakes, 26 and 27 July 1960; 18 and 19 August 1960.
Rock Creek Summit, Willmore Wilderness Park, 12 August 1974.
Willow Creek, 4 August 1980.
Devona, 22 February 1982; 15 March 1983; 28 August 1983.
Shovel Pass, 5 August 1983.

The following 12 sightings were reported to me by other observers. During August of 1980 and 1981, R. Slagter recorded 3 sightings of Prairie Falcons over alpine tundra at Watchtower Basin and Shovel Pass. E. O. Hohn saw a Prairie Falcon at Talbot Lake on 14 August 1970. G. Erickson observed Prairie Falcons on 5, 9 and 11 August, 1977, at Ram Mountain. J. Clark and K. Walker (Jasper Park Interpretive Staff) sighted Prairie Falcons on five dates between 18 August and 5 September, 1983, in montane and sub-alpine habitats in Jasper and Banff Parks. Additionally, they received reports from others of Prairie Falcons at Medicine and Maligne Lakes in late August and early September (K. Walker, pers. comm.).

In all, there are at least 45 Prairie Falcon sightings in the mountain parks, of which 33 occurred in August, 4 each in July and September, and 1 each in February, March, May and June.

Brown and Amadon (1968: 835) write that Prairie Falcons nesting on the lower plateaus of the southwestern United States "concentrate temporarily on high ground (over 3,000 m) in summer heat". A similar move to high ground in late summer after the breeding season appears to be characteristic of Prairie Falcons in Alberta.

The sightings made as part of the Ecological Wildlife Inventory indicate that Prairie Falcons were seen with roughly the same frequency in Banff and Jasper (9 in Banff and 11 in Jasper; G. Holroyd, pers. comm.).

Note: Up to this date I have never identified a Peregrine Falcon (*Falco peregrinus*) in the Rocky Mountains of Alberta. This species passes through central Alberta during migration (Dekker 1979). In view of the observed occurrence of Prairie Falcons in the Rockies and the potential for misidentification, all reports of Peregrines should be scrutinized with care.

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Peregrine Falcon Sightings in the Rocky Mountains of Alberta

Geoffrey L. Holroyd

The Peregrine Falcon (*Falco peregrinus*) was considered a rare transient in Alberta (Salt and Salt 1976) but Dekker (1979) documented a pronounced spring and fall migration from 1969 to 1978 in central Alberta. In Banff and Jasper National Parks the Peregrine Falcon is a very rare visitor. This note documents six sightings recorded during the ecological wildlife inventory of Banff and Jasper National Parks (Holroyd and Van Tighem 1983).

The six observations were all by different observers as follows:

10 May, 1977, near Parker's Ridge by Don J. Karasiuk

28 June, 1977, in Spray River Valley by Mary E. Dyer

26 July, 1979, in Panther River Valley by Howard E. Coneybeare

28 July, 1979, in Panther River Valley by John L. Kansas

12 August, 1976, in lower Athabasca Valley by Geoffrey L. Holroyd

7 September, 1977, in lower Athabasca Valley by Jim W. Wolford

The only other record was by A.W.F. Banfield who had four sightings between 17 and 25 August, 1953, on the south boundary of Jasper National Park (Park Warden files).

Dekker (1984) has pointed out that care should be taken when separating this species and the Prairie Falcon. In all of the above cases the lack of dark arm pits was a diagnostic characteristic.

There is no doubt that the Peregrine does occur in the Rockies but they are less common than Prairie Falcons (Dekker 1984). Like the Prairie Falcon sightings, more Peregrines were observed in the Front Ranges than in the Main Ranges, but in contrast, there is no peak month to the Peregrine sightings.

Formerly, Peregrines nested quite commonly along rivers and creeks in central and southern Alberta, but there are no breeding records for the province's mountains. Photo: Kay Morck

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Black-and-white Warblers in Maligne Valley, Jasper National Park

Jim R. Salt

The Black-and-white Warbler, *Mniotilta varia*, has been considered accidental in the Alberta Rockies (Salt and Salt 1976). Holroyd and Van Tighem (1983), during seven years of ecological surveys in the Rocky Mountain parks and extensive literature search, could report only two records for Banff (Bow R. valley, 30 May 1974; 9 June 1975) and two for Jasper (lower Athabasca R. valley, 21 May 1976; 28 May 1978). A singing male has been reported for Waterton Park, Alberta, on 1 - 3 July 1979 (C. Wallis, pers. comm.). Although the Black-and-white Warbler can be quite elusive, it is not particularly so during spring migration. In view of the fact that it cannot be confused with any other species in the mountain region (with the exception of the Blackpoll, from which it is easily distinguished by the crown stripe), it seems improbable that the species has simply been overlooked.

On 28 May 1982, I travelled up the road to Maligne Lake, with a natural history class from Blue Lake Centre, making frequent stops to observe fauna. On the return journey, at a stop 6.5 km SE of Maligne Canyon, we encountered several passerines feeding in some aspen beside the river, and one of these birds proved to be a Black-and-white Warbler. The class was able to examine it, and when a second bird appeared in the same tree, we were able to note the differences between male and female in spring plumage. The male permitted us to study it for more than 15 minutes. The female, intent upon feeding, soon moved farther up the river southeastward.

The location of this site is marked by a stub of old road which turns off the paved route. It is now blocked and serves merely as a pull-out. The forest here is primarily white spruce at the river, but with some willow on the opposite side of the river, and with a few small aspen here and there on either side. Steep, semi-open pine slopes extend northeastward, with expanses of spruce and some fir rising more gradually to the south and southwest.

I was unable to visit the area again until 13 June, but on this date, I again found a male Black-and-white Warbler at the same site. The record is by no means conclusive of breeding, particularly since the male was not noted to sing on either occasion, but elsewhere in Alberta the species claims territories in mid-May and appears to begin nesting at once.

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This immature Black-and-white Warbler lacks the black throat of the adult male in spring.

Photo: Edgar T. Jones

Some Significant Winter Bird Observations for Waterton Lakes National Park

Bill Merilees

In 1973 the Canadian Wildlife Service completed a report entitled, "The Bird Fauna of Waterton Lakes National Park" (Sharpe 1973). This report summarized in detail all known information about the park's bird fauna.

Because the majority of written reports and observations made for the park, including those made by Sharpe, were made between late spring and late autumn, the status of the birds present during that period is much better documented for the late autumn to early spring period. The only regular observations made during the winter months were those of Seel from February 1966 to February 1969.

Alpine scenery in Alberta's Rocky Mountain Parks.

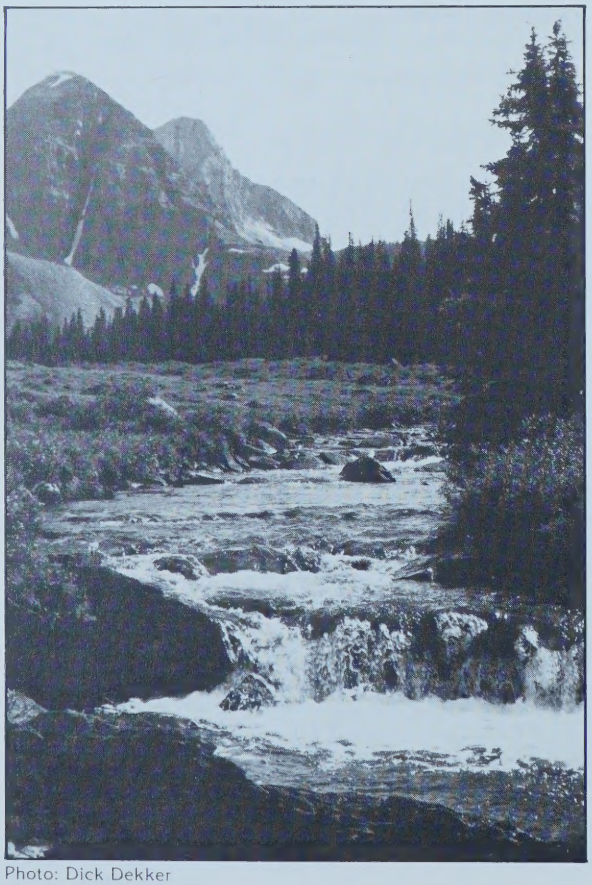

Photo: Dick Dekker

In August 1977 the author arrived in Waterton Townsite and kept almost daily observations of all species observed until late April 1978. From these extensive records, the following observations have been selected as being significant. All these observations were made along the park's access corridors. A complete set of notes is in the park's resource files.

Discussion

Red-throated Loon – The single observation of this small loon was made on Annand's Bay. The small size, upturned bill and speckled back, typical of winter plumage were clearly seen.

Trumpeter Swan – Small groups of up to 4 individual Trumpeters, separated from the more common Tundra Swans by their larger size, head conformation and red 'gum' line were recorded on 6 occasions.

Greater and Lesser Scaup – These species were separated on the basis of head shape and irridescent sheen.

Herring Gull – One adult was present on Emerald Bay Nov. 26, 1977 feeding on a whitefish. Five of the 6 observations were of single birds. Birds in first year plumage were seen April 12 and 20, 1978. The remainder were adults.

Bonaparte's Gull – On the afternoon of November 3, 1977, small flocks of up to 60 individuals were passing south over Knight's Lake. In total more than 195 individuals were seen in 6 flocks, though many more groups were present.

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Significant Bird Observations – Waterton Lakes National Park

SPECIES	LAST SEEN 1977	FIRST SEEN 1978	COMMENTS
Red-throated Loon*	Oct. 19	– –	
Trumpeter Swan*	– –	Mar. 15	6 observations to April 18, 1978
Green-winged Teal	Nov. 3	Mar. 31	19 observations to April 26, 1978
Cinnamon Teal	– –	Apr. 23	Also April 25, 1978
Northern Shoveler	Nov. 3	Mar. 22	12 observations to April 26, 1978
Ring-necked Duck	– –	Mar. 19	
Greater Scaup*	– –	Mar. 21	Only observation
Lesser Scaup*	– –	Mar. 28	Also March 31, 1978
Old Squaw	Nov. 3	– –	Only observation
Ruddy Duck	– –	Apr. 14	Also April 20, 1978
Common Merganser	– –	Mar. 17	
Red-breasted Merganser	– –	Mar. 29	13 observations to April 19, 1978
Northern Harrier	– –	Mar. 27	6 observations to April 20, 1978
American Kestrel	– –	Mar. 27	13 observations to April 19, 1978
Common Snipe	Dec. 9	– –	One found fresh dead in Townsite
Herring Gull*	Nov. 26	Mar. 28	See discussion
Bonaparte's Gull*	Nov. 3	– –	See discussion
Belted Kingfisher	Nov. 9	Apr. 16	
White-breasted Nuthatch	Nov. 29	Mar. 5	8 observations Oct. 30 to Nov. 29, 1977 6 observations Mar. 5 to 16, 1978
Brown Creeper	Nov. 5	Mar. 19	4 observations Mar. 19 to Apr. 7, 1978
American Robin	Nov. 9	Mar. 11	
Varied Thrush	– –	Mar. 18	14 observations to April 16, 1978
Golden-crowned Kinglet	– –	Mar. 22	6 observations to April 5, 1978
Water Pipit	– –	Apr. 16	Also April 25, 1978
Yellow-rumped Warbler	– –	Apr. 23	*auduboni* race
Evening Grosbeak	– –	Feb. 24	4 observations to March 31, 1978
Common Redpoll	– –	Mar. 22	8 observations to April 7, 1978
Tree Sparrow	– –	Mar. 18	Also March 22, 1978
Song Sparrow	– –	Mar. 12	14 observations to March 21, 1978
Snow Bunting	First seen Nov. 7, 1977		Also on Nov. 10, 1977

* See Discussion

Golden Eagles at Beaverhill Lake, Alberta, 1964–1983

Dick Dekker

In Alberta, Golden Eagles (*Aquila chrysaetos*) nest mainly in the mountains and locally in southern and northern parts of the province (Godfrey 1966, Salt and Salt 1976). During migration periods they are common along the foothills west of Calgary (Dekker 1970).

This note gives information on the occurrence of migrating Golden Eagles at Beaverhill Lake, Alberta, where I went birdwatching on 598 days from March to May, and on 467 days from September to November, 1964-83.

In the field, adult Golden Eagles can be recognized by their rather uniform brown colouration and yellowish nape, while immatures show varying amounts of white at the base of the tail and primaries (Godfrey 1966). When seen from below, soaring Golden Eagles present a distinct flight silhouette with wings that are "noticeably narrower at base" (Cramp and Simmons 1980:234), which can be an aid in identification. However, because of similarities in size and colour "immature Bald Eagles (*Haliaeetus leucocephalus*) are likely to be confused with Golden Eagles" (Godfrey 1966:97). I find it often impossible to correctly identify distant dark-headed eagles and have discarded all such sightings in which the birds flew over land. Distant dark headed eagles flying low over the lake or sitting on the ice, which Golden Eagles were seen to do on only one occasion, were assumed to be immature Bald Eagles.

I saw a total of 32 Golden Eagles at Beaverhill Lake, all except one over land. Most were in flight when first sighted; others sat on posts, trees or on the ground. Eighteen were seen in the spring period, and 14 during fall (Table 1). Earliest and latest spring dates were respectively 19 March and 26 May. For the fall period those dates were 20 September and 12 November.

Behavior that I assumed to be foraging or hunting was observed on six days. Four times a Golden Eagle flew with vigorous wingbeats towards flocks of geese that were on the ground, but took off and escaped. One eagle, after soaring at great altitude, fell "like a stone" over a field where thousands of geese flushed. I was too far away to see the outcome of that attack. Another Golden Eagle grappled with a flightless Canada Goose (*Branta canadensis*). Both birds flapped their wings during the encounter, until the eagle released the goose, perched briefly on a post and flew away, perhaps disturbed by my approach. The goose was able to walk and I left it alone.

Smaller bill size and "golden" hackles distinguish the Golden Eagle from the immature Bald Eagle, although these differences are seldom useful for field identification. Photos: Dick Dekker

On 8 April 1972, an adult Golden Eagle appeared to be catching small rodents flooded out of their burrows by melt waters. The eagle made short flights, walked about and picked up small dark objects. Five Bald Eagles and numerous gulls and crows were behaving in the same way. I caught several of the rodents which were meadow voles (*Microtus pennsylvanicus*).

In view of the large number of observation days and the relatively small number of sightings, the Golden Eagle can be considered quite rare near Beaverhill Lake. By contrast, I recorded a total of 813 Bald Eagles during the same period (Dekker in prep.). Thus, Bald Eagle sightings outnumbered those of Golden Eagles twenty-five to one.

Table 1. Golden Eagle sightings at Beaverhill Lake, Alberta. Data pooled for 20 years, 1964-1983.

Month (Observation Days)	Number of Sightings Adult	Immature
March (35)	8	-
April (191)	4	1
May (372)	-	5
September (195)	1	2
October (167)	5	4
November (105)	2	-
Totals (1065)	20	12

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3819 - 112A Street, Edmonton, Alberta T6J 1K4

Ravens Nesting Near Athabasca, Alberta

Gerald Ryan

I first noticed two ravens in the winter of 1982. They were attracted by some meat which I fed to my dogs. Since there is a steady supply of meat in the winter the birds stay close by. The first time I noticed the nest was in the spring of 1983. My attention was brought to it one morning when a large hawk was seen flying nearby. The ravens were making an awful fuss trying to chase the hawk away. The nest is located about 100 m from my welding shop and approximately 4 km NNE of the town of Athabasca.

Two young birds were hatched out in the spring of 1983. The adults stayed around the yard or close by while the young learned how to fly. The adult birds would fly about 25 m from the nest and call to the young birds until they summoned up enough nerve to try to fly to the tree where their parents were sitting. This procedure lasted about a week until the young birds could fly fairly well. The whole family then seemed to move around more. I would only see them occasionally, sometimes accompanied by another bird later in the summer. As the summer faded into fall I began to notice the birds more frequently.

Two birds have stayed throughout the winter. I will continue to observe them and see if they again nest in the area.

Author's address:
Box 1121, Athabasca, Alberta T0G 0B0

Unusual Bird Sightings — Winter 1983–84

Edgar T. Jones reported a male and female Cassin's Finch at his Edmonton feeder in January. The female was caught, banded and photographed. Edgar comments, "In the course of 25–30 years of banding in this area I have never encountered Cassin's before." He also mentions having banded 38 Pine Siskins.

Richard Thompson reported 3 Rufous-sided Towhees at a feeder in north Edmonton. A male was photographed there by Winnifred Horn on February 7th.

Incidental Wildlife Observations in Waterton Lakes National Park

Maude Eaton

This note relates two incidents, one regarding coyotes and mule deer, the other black bears, witnessed by me in 1976 in Waterton Lakes National Park. I was, at the time, living approximately 1.5 km from the townsite. The winter had been particularly harsh and for the first time in 4 years I had been awakened in the night by the howling of coyotes right outside my bedroom window. Previously, I had never seen any within 5 km of my residence.

One day in January, at approximately 8:15 A.M., I observed a mule deer doe through my binoculars. I recognized her by a scar on her left rump and knew her to be 8 or 9 years old. She was being hounded by three coyotes working together in a pack. After about 15 minutes they managed to chase her onto the Lower Lake which was ice-covered. There was no traction for her on the icy surface and she was pulled down by one of the coyotes which had ham-strung her. The three coyotes fed on her until approximately 3 P.M., coming and going at intervals. I then observed 2 Golden Eagles, followed by 4 or 5 Ravens and numerous Black-billed Magpies, feeding on the carcass. By dusk all evidence had disappeared. Three days later, the fawn born to the doe the previous June was brought down in a similar fashion and at a similar time in the morning.

There was another memorable occurrence I witnessed in early June. I was entering the park in my car on my return from Lethbridge. It had been raining and the sky was heavily overcast. I was 55 km inside the park when I saw 150 m ahead of me what appeared to be an old man in the middle of the road. I slowed to a crawl and got within about 25 m of the object, which did not move. I then saw that it was a big cinnamon-colored (black) bear. I closed the windows, shut off the engine and waited. In a minute or two, a cub, jet black in color, ran across the road in front of the sow. She reared up, waited, and a second cub, this time cinnamon-colored, crossed over. The sow still waited and to my amazement, a third cub, this time milk-white in color, ambled out of the undergrowth up to the sow who promptly whacked it over the rump to get it to follow the others. She then scampered off into the undergrowth with her offspring.

Upon reporting this sighting to the Park Warden on duty, I was told it was unusual for a sow bear to produce 3 cubs, let alone one of them to be milk-white in color. I often wonder if that white cub reached maturity. What a sight that would have been.

Author's address:
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Sunflower Seed Used by Birds

Interest in non-consumptive (non-hunting) use of wildlife has become one of the fastest growing hobbies in North America. A study in the USA in 1974 found that $500 million was spent on purchase of bird seed, sale of birdhouses, feeders, field guides, books, dues to clubs and purchase of binoculars and cameras to observe and photograph wildlife. Six years later, this figure jumped to $40 billion (sales greater than that of the Ford Motor Company; bigger business than the nation's largest retailing companies of Sears Roebuck and Safeway Stores combined).

A similar study of Canadian involvement conducted by Statistics Canada, "The Importance of Wildlife to Canadians," found that in 1981:

— 83.8% of respondents were involved in wildlife related activities
— 48.6% read about wildlife
— 66.8% were involved in residential activities related to wildlife
— only 9.8% hunted with 32.1% having hunted at least once in their lives
— 4.2 billion dollars was spent on wildlife related activities
— $3.0 billion on non-consumptive use
— $1.2 billion on hunting wildlife

The John Janzen Nature Centre has been aware of this interest because of increased visitation, greater bookstore sales, more birdseed sales and numerous telephone calls for assistance. Another study by the Pennyfeather Company in the USA had found that sunflower seeds were the most desired by birds. Sun-

flower seeds contain 31% more iron per pound than raisins and are high in less common nutrients such as lysine and vitamins including thiamin and niacin. These seeds are also a good source of high quality protein and unsaturated fat.

Local people were debating what type of sunflower seeds to feed wild birds. Some said large seeds were preferred, others felt that the small oil producing seeds were better. As a result of this interest, the Nature Centre undertook a short study. Two large feeders, each separated into four sections on each side, were built. One was placed on a rural acreage near Devon at the home of Lorne Proudfoot. The other was placed in an urban setting at the residence of Judge White.

Both feeders were kept full of sunflower seeds. One half of the compartments were filled with small black seeds and the other half with large striped seeds. The four individual compartments were alternated with small and large seeds.

Both sites were monitored from early February to late March 1983. Observation periods lasted 15 minutes each time. Different periods were selected each day in an attempt to obtain a cross section of feeder use throughout the day.

Results were tabulated and summarized as follows:

1. Black-capped Chickadees preferred small seeds over large (119%).
2. Evening Grosbeaks preferred large seeds over small (8%).
3. Blue Jays also preferred large seeds over small (41%).
4. Blue Jays used those sections of the feeder filled with large seed with no preference for nearer woods versus nearer the house, or outside compartments of the feeder versus the middle sections.
5. Chickadees and Grosbeaks preferred the end compartments of the feeder versus those in the middle. They also preferred the ends of the feeder nearest the trees or woods.

Submitted by Cam Finlay and the
John Janzen Nature Centre Staff, Edmonton

Evening Grosbeaks become regular customers at feeding stations where sunflower seeds are provided.

Photo: Edgar T. Jones

F.A.N. NEWS

FAN Summer Field Meeting

FAN's summer field meeting will be held in Medicine Hat on the Canada Day long weekend, June 30-July 2. Primitive camping will be available at a ranch 19 km (12 mi.) west of the Medicine Hat airport, close to the South Saskatchewan River. The road to the ranch is paved and direction signs will be provided. A portable biffy will be installed on site and plenty of good water is available, but otherwise, there are no established facilities at the camping site. The ranch itself is situated on native mixed grass prairie; as well, a number of cliffs can be found along the banks of the South Saskatchewan River. There is also a log cabin on the ranch which has been declared a local historical site. Sprague's Pipits, Burrowing Owls, horned toads and scorpions are among the interesting animal species which may be found in the area. Those wishing to stay in motels should contact the Nature Center in Medicine Hat at 529-6225 for locations and availability.

Field trips are planned to Pakowki Lake, the proposed Milk River Ecological Reserve, a dinosaur dig at Irvine and the Medicine Hat Urban Park. Optional field trips for Monday, July 2, include Lake Newell, where pelicans and cormorants can be observed, or the sandhills block of the Suffield Military Range. Hope Johnson, a local naturalist and author of a book on how to identify dinosaur fossils, will be one of the field trip leaders. Tom Willock, a man very familiar with the land of southern Alberta, will also lead a field trip. In addition, he will be giving a slide presentation on the grasslands of Southern Alberta.

A Member's Night is planned for Saturday evening. Anyone planning on attending the meeting is encouraged to bring along 10-20 of their favorite outdoor or nature slides to show. The Sunday evening program will feature as one of the speakers Dr. Geoff Holroyd of the Canadian Wildlife Service in Edmonton, speaking on bats. There may even be the possibility of an evening walk to look for bats.

Registration for the meeting will be at the Police Point Interpretive Center. The Center is located on the east side of Medicine Hat on the north bank of the South Saskatchewan River – look for FAN signs. Registration will take place 8-10 P.M. on Friday night and 10 A.M. to 12 NOON on Saturday. Registrants will be provided with an agenda and a map to the ranch. Details of the meeting will be posted on the door of the Nature Center for those arriving at other times. A field trip to the Medicine Hat Urban Park will leave the Nature Center at 1 P.M. Saturday afternoon.

FAN Fall Meeting

The FAN Fall Meeting will be held at the John Janzen Nature Centre in Edmonton, the weekend of September 22 and 23. Registration will be at the Nature Centre from 9:00 to 10:00 A.M. on Saturday. The Directors' meeting starts at 10:00 A.M. Field trips will be organized by the local clubs, the Edmonton Bird Club and the Edmonton Natural History Club, for both days. Potential locations include: birding at Beaverhill and Whitford Lakes, visits to the Wagner Natural Area and the Clifford E. Lee Nature Sanctuary.

An evening program is planned on Saturday from 7:00 to 10:00 P.M. at the Nature Centre. The tentative theme is "Provincial Parks: Management of Natural Resources and Visitors". The meeting will be open to the general public.

In conjunction with the FAN meeting, an art show entitled "The Art of Wildlife", specifically focussed on animal species (birds, mammals, fish, insects, etc.), will be opened. Application forms for those wishing to submit any artwork (except photographs) will be available from FAN, Box 1472, Edmonton, T5J 2N5, or by writing Margot Hervieux, No. 102, 8509 – 106A St., Edmonton, T6E 4J8. Applications must be submitted by July 31. For further information, contact Margot Hervieux (434-7446 work; 433-5507 home) or David Ealey (463-8808 work; 434-0841 home).

From the Editor

Most of you have by now had a chance to digest the "new format" *Alberta Naturalist*. We are encouraged by the overwhelmingly positive response to the change. Special thanks are due to Dave Ealey for compiling much of the material on Dewey Soper and to Dick Dekker for his excellent job of layout. As with most new endeavors, there are still a number of bugs to be worked out and things which can be improved, but we feel we are on the right track with the new format. Readers' comments on any aspect of the new *AN* are welcomed.

The cost of publishing the *AN* has increased substantially with the new format. Because of the increased cost, an annual research supplement will no longer be published. The material which was normally included in this supplement (May Day Counts, Christmas Bird Counts) will now be published in one of the four regular issues of the *AN* in a condensed form.

With the increased use of photographs, we would like to build up a photo library for the *AN*. For the first issue, we were lucky to have a large selection of Soper's personal photographs, courtesy of University of Alberta Archives and the Dept. of Zoology Museum. Readers who have material (from which black and white prints can be made) are encouraged to submit it for inclusion in the *AN*. (Please specify if you wish to have material returned.)

The new editor of the *AN* battleship is currently suffering from a bad case of motion sickness. I am just beginning to truly appreciate the amount of work that goes into producing an *AN*. I would like to extend commendations to our past editor, Ginny Young, for a job well done, under what must at times have been very trying and frustrating circumstances.

The *AN* is not intended to be the editor's own private publication. It is a vehicle of expression for the membership as a whole; it can only be as good (or bad?) as you, the contributors, make it. The possibilities for creative expression are virtually limitless. Almost anything a naturalist does can provide something worthy of inclusion in the *AN* (just look at this issue for example). We know there are many avid naturalists among you so let us hear from you sometime. As the distinguished editor of the Edmonton Naturalist recently said, "Please write soon...it's lonely being editor!"

J. Derek Johnson

Milk River Canyon Ecological Reserve Hearings

A very large number of people assembled for these hearings, about 275 by the count made by myself and the Calgary Herald (complicated by inadequate ventilaton and a consequently peripatetic crowd). With the exception of about seven presentations, all favored ecological reserves, and the Milk River Canyon Reserve in particular. The opposition came in some part from off-road vehicle addicts, from a local fish and game association, but largely from local ranchers, whose own objectives are in fact not threatened by the Reserve, and vice versa, but who had been inadequately involved in the process of establishing reserves and their governing regulations. You will be thrilled to find that you sent to this meeting a "Trotskyite, in the pay of the international communist conspiracy"! I just wish I could figure out where the paycheques are handed out!

Maryhelen Posey

Milk River Canyon Ecological Reserve

A Brief Presented to the Advisory Committee of Wilderness Areas and Ecological Reserves.

The Federation has supported the concept of establishing a system of Ecological Reserves since its inception in this province, and has participated in the attempt to identify suitable sites.

The Milk River Canyon Ecological Reserve, as proposed, is of especial importance in this system, because so many of the representative grasslands have been obliterated by development of one kind or another; because, though of somewhat limited extent, it is both sufficiently varied and sufficiently large to provide maintenance of reasonably representative grasslands communities; and because it is both remote and relatively undisturbed, contributions both to its present value and the ease of maintaining that value.

We understand that there are some proposals to reduce the area of the Ecological Reserve itself, in favor of utilizing the remaining area of the present proposal for a buffer zone.

While the concept of buffer zones surrounding Ecological Reserves is an extremely desirable one, it must not be used to reduce the size of the Reserves themselves. The Reserve as proposed is, as noted above, already of rather limited extent for its purpose. The grasslands originally extended over many hundreds of thousands of square kilometres, not hundreds, and the scale of a Reserve is necessarily related to the scale of the ecosystem it was designed to "record" in living form for future generations.

We hope that the proposed reserve will be approved in its entirety, to be managed for the edification and enjoyment of many generations of Albertans, naturalists among them, without loss of its existing integrity.

Presented in Lethbridge, 21 March, 1984, On Behalf of the Federation of Alberta Naturalists by Maryhelen Posey, Past-President

NOTES AND NEWS

Editor's Note: Following is one personal assessment of the hearing held concerning the Milk River Canyon Ecological Reserve in Lethbridge on March 21.

The Milk River Canyon – Our First Ecological Reserve?

The recent Milk River Canyon hearings in Lethbridge marked a new stage in the painfully slow establishment of an ecological reserve system for Alberta. Roughly 300 people attended the hearings, and nearly 80 briefs were presented. Support for the ecological reserve was very strong, however a sizeable majority felt that policy changes were necessary in order to accommodate their personal interests, and a small minority seemed completely opposed to the ecological reserve concept.

Most of those who suggested policy changes were concerned with hunting, grazing or access, and those concerned with the first two referred to analogies between cattle and bison, or between hunters and predators. If we accept cattle grazing as a replacement for the ecological influence of the vanishing bison herds, then grazing should be managed to recreate the natural patterns of timing and intensity of bison use, rather than the 'unnatural' grazing regimes of contemporary range management. Similarly, if hunting is to make up for the loss of natural grassland predators, then the eliminated patterns of predation intensity and prey selection should serve as our guide, rather than the conservation ideals of maximum sustained production.

Access is a particularly tricky issue. Hunters, naturalists and wildland recreationists deplore the trend to restrict access to crown lands, but ecological reserves deserve special consideration. To begin with, I only take exception to vehicular access; hikers and horsemen have much milder impacts on the land. At the other end of the spectrum are four wheel drive enthusiasts, whose activities are clearly incompatible with the idea of an ecological reserve. This leaves an important group – the old, the very young and the handicapped,who require easier access than the more mobile majority. These people have as much right as any to appreciate the beauty of the Milk River Canyon. The very fact that they are not particularly mobile suggests that they require only a relatively small land base, and their needs could be met by a few access points to parts of the Milk River Canyon not included within the proposed ecological reserve.

What does this lead to? It is clear that no matter how many people will be satisfied with the establishment of an ecological reserve around the Milk River Canyon, there will always be some who are in opposition. Compromises between ecological integrity and conflicting demands are inevitable. We should be wary of solutions based on hunter/predator and cattle/bison analogies, although careful management could turn these analogies to our advantage in recreating primeval conditions. The most important point however, is that the Milk River Canyon Ecological Reserve proposal has publicly focused issues which are sure to affect many other ecological reserves. It is the responsibility of naturalists to ensure that these issues are sensibly resolved right now, in order to set new precedents for a truly effective ecological reserve system.

Matt Fairbarns

The non-poisonous Bullsnake is one species that would benefit from the establishment of ecological reserves in the Milk River Canyon. Readers who are concerned about the future of the Milk River Canyon and other ecological reserves in Alberta are encouraged to write to the Minister of Recreation and Parks, the Hon. Peter Trynchy, Legislative Building, Edmonton, Alberta T5K 2B6.

Photo: Edgar T. Jones

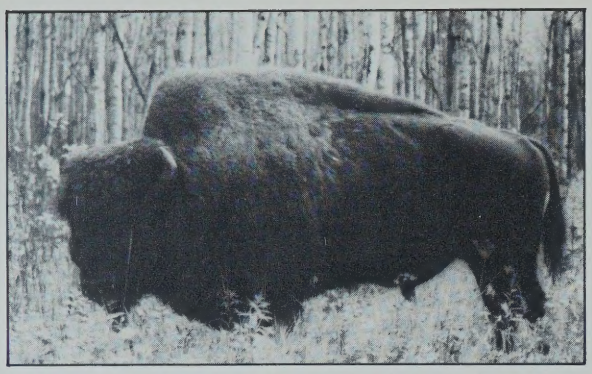
Raptor Collisions With Utility Lines

A Call For Information

In transmitting electric power from production facilities to their users, utility companies have erected many thousands of miles of power and distribution lines worldwide. In flight, birds of prey (raptors) are usually able to avoid such obstacles; however, when preoccupied or distracted – e.g., when engaged in territorial defense or pursuing prey – the potential for line strikes increases. This potential is of greatest concern when power lines are near nest sites, roosts, or other high use areas of endangered species.

Although a few actual case histories of line strikes by raptors are documented in the literature, efforts to portray utility line collisions as a significant mortality factor have not always been convincing. The overall impacts on raptor populations, the specific environmental and behavioral factors which contribute to line strikes, and appropriate techniques for mitigation are poorly understood. In view of an ever-increasing demand for electric power and the continuing declines of many raptor populations, a systematic and comprehensive review of the problem is needed.

The U.S. Bureau of Land Management, Sacramento, in cooperation with the Pacific Gas and Electric Company, is assembling all available published and unpublished information concerning collisions of raptors with power lines and other utility lines. Actual case histories – no matter how circumstantial or fragmentary – are needed. Please acknowledge that you have such information by writing to Dr. Richard R. (Butch) Olendorff, U.S. Bureau of Land Management, 2800 Cottage Way, Sacramento, California 95825 U.S.A. (Phone (916) 484-4541). A form on which to record your information will then be sent by return mail.



The Wood Bison is larger, darker and woolier than the Plains Bison. Photo: Jo-Anne Reynolds

Wood Bison Go Home

Federal Environment Minister Charles Caccia and Alberta Associate Minister of Public Lands and Wildlife, Don Sparrow, signed a five-year agreement in December 1983 to reintroduce the wood bison to its historical range in the Hay-Zama Lakes area in the extreme northwest corner of the province. Under the terms of the new agreement, the Canadian Wildlife Service and the Fish and Wildlife Division of Alberta Energy and Natural Resources will establish a management authority to carry out the project.

The Dene Tha Band of Fort Vermilion District is cooperating in the project. Band members participated in the selection and construction of a corral, 3 sq. km. in area, to hold the transplanted bison during the acclimation phase of the project.

In March, approximately 30 bison were transported from the herd at Elk Island National Park by the Canadian Wildlife Service. These relocated animals will be held in the corral and cared for by the Alberta Fish and Wildlife Division until March 1985. Releases of the wood bison to their new range will begin in 1985. Some will be fitted with radio collars to aid in aerial surveys. By March 1987, all bison will have been released.

Only three free-roaming herds of wood bison presently exist: at Elk Island National Park, east of Edmonton; in the Mackenzie Bison Sanctuary at Great Slave Lake, Northwest Territories; and in the Nahanni River area. In addition, eight small captive herds exist in Canada, the United States and Germany.

Environment Canada; Alberta Energy and Natural Resources

Prairie Crop Damage by Waterfowl To Be Tackled

The Federal Cabinet has authorized five-year waterfowl crop damage prevention and compensation agreements with Manitoba, Saskatchewan and Alberta. Costs of the program will be shared equally by the federal and provincial governments. Environment Canada will contribute up to $1 million annually in cooperative programs to reduce crop damage by migratory waterfowl. This will include development of bait stations, lure-crop planting, research on prevention measures and programs to encourage farmers to minimize crop dependence by waterfowl. Future government initiatives to enhance waterfowl populations will include a crop damage prevention component to ensure that such conservation efforts do not inadvertently result in crop damage. To help compensate prairie farmers for crop losses resulting from migratory waterfowl, $14.6 million will be made available to Agriculture Canada. Compensation to farmers suffering waterfowl crop damage will be based on a $65 per acre maximum adjusted annually according to average crop insurance coverage levels.

It is important for federal and provincial governments, the agriculture industry and wildlife conservation groups to work together to maintain healthy waterfowl populations while preventing crop damage and ensuring that farmers receive fair compensation for crop losses.

Agriculture Canada, Environment Canada

Land Use Hearings

The agricultural land use hearings of the Environment Council of Alberta ended in December with six days of hearings in Edmonton. Through the course of the hearings which were held at 17 locations throughout the province, 260 briefs were heard. About 1200 people attended. A final report and recommendations are expected this fall.

Environment Views

Editor's Note: FAN was one of the groups that submitted a brief to these hearings. (See *AN* Vol. 13(3): 124-128).

Proceedings: Resource Management in the Eastern Slopes

Proceedings of the symposium – Resource Management in the Eastern Slopes – sponsored by the Canadian Society of Environmental Biologists – Alberta Chapter, are now available. The 98 page report contains 12 papers presented at the symposium, March 19, 1983.

The symposium brought together resource users in the Eastern Slopes of the Rocky Mountains in order to discuss ways and means of achieving multiple resource use while minimizing conflict. The morning session was devoted to an analysis of governmental policy and planning in the Eastern Slopes, while the afternoon session featured a panel discussion on resource interaction and conflicts.

The proceedings are available at a charge of $10 from
Canadian Society of Environmental Biologists, Alberta Chapter
P.O. Box 12, Substation 11,
University of Alberta
Edmonton, Alberta, T6G 2E0

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Trumpeter Swans – Information Needed

In conjunction with initial efforts at Trumpeter Swan introduction in central Alberta, several swans were provided with yellow collars in 1983. These birds may be seen in Alberta in 1984 and the Canadian Wildlife Service is interested in any records. The swans have a large number 3 on the collar and a large letter. Please take careful notes on any such birds and send a copy to
Len Shandruk
Canadian Wildlife Service, 10th Floor
9942-108 St. Edmonton, Alberta T5K 2J5

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Prickly Pear Cactus in bloom, a spectacular sight common to the Milk River Canyon proposed as the province's first ecological reserve. Photo: Edgar T. Jones

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Beaverhill Lake National Nature Viewpoint

On April 29, 1984, during a joint field trip to Beaverhill Lake by the Edmonton Natural History Club and the Edmonton Bird Club, this area was designated as a National Nature Viewpoint in a brief designation ceremony held on the west side of the Ducks Unlimited weir, between Beaverhill Lake and Robert Lister Lake. Approximately 70 people were in attendance. The project was a cooperative effort by the Canadian Nature Federation, Federation of Alberta Naturalists, Edmonton Natural History Club and the Edmonton Bird Club, with financial assistance from the Alberta Recreation, Parks and Wildlife Foundation. This was the second such designation in Canada, the first being Machais Seal Island off New Brunswick.

Dave Ealey, President of the Federation of Alberta Naturalists, served as master of ceremonies. Dr. Bob Turner, President of the Edmonton Bird Club, spoke first about the importance of the lake to birders and other naturalists and gave a brief overview of the history of Beaverhill Lake. Tom Beck, a Director of the Canadian Nature Federation, then officially dedicated the National Nature Viewpoint on behalf of the Federation. He also spoke on what a National Nature Viewpoint is and why it was important to highlight Beaverhill Lake as such. Dave Cuthiell, President of the Edmonton Natural History Club, described the role of the local clubs in the project and added some personal views about the lake.

Appreciation was extended to Chuck Moser and the Alberta Recreation, Parks and Wildlife Foundation for their support in the amount of $2,550.00 for preparation and installation of the designation plaques, Steve Witiuk for constructing the posts and mounting the plaques, Al Lougheed and Orlie Conn of Cactus Drilling Ltd. for donating materials, Lloyd Hakes for welding, and Harry Brook and John Rintoul for installing the plaques.

The designation of areas judged to be of national or provincial significance as National Nature Viewpoints by the Canadian Nature Federation is intended to encourage and stimulate interest in the acquisition of nature preserves. The areas are not owned outright or managed by the Federation, but are intended to increase interest in and appreciation of our natural heritage. By increasing interest, the designation will hopefully encourage owners to protect such areas. Nature Viewpoints are established to encourage naturalists to study and enjoy such areas under appropriate conditions. The sites are comparatively non-sensitive so that while they can be enjoyed, little environmental damage will be caused by their use.

J. Derek Johnson

ANNOUNCEMENTS

The Saskatchewan Natural History Society is planning a **Whooping Crane tour** from Saskatoon for Sept. 29 and Oct. 6. Cost: $65 for SNHS members, $77 for non-members. Information may be obtained by writing to SNHS at Box 1784, Saskatoon, Sask. S7K 3S1.

The society also publishes the Blue Jay, a quarterly magazine about conservation and nature observations in Alberta, Saskatchewan and Manitoba. The subscription rate is $12 per year from SNHS at the above address.

The revised Second Edition of the **Flora of Alberta** which was reviewed in Vol. 14 No. 1 of the *AN* is available from the Nature Canada Bookshop, 75 Albert Street, Ottawa, Ontario K1P 6G1 (cost $45.00. plus $3.00 for postage and handling), or from the Blue Jay Bookshop, P.O. Box 1121, Regina, Sask. S4P 3B4 (cost $45.00, postage paid).

Marsh Ragwort at Beaverhill Lake.

Photo: Dick Dekker

CLUB NEWS

Edmonton Natural History Club

The final indoor meeting of the season, on May 8, featured Dr. Robin Leech speaking on Alberta Spiders. The spring field trip schedule began with a trip to Beaverhill Lake with the Edmonton Bird Club on April 29. This trip also marked the official dedication of the lake as a National Nature Viewpoint by the Canadian Nature Federation. The May 6th field trip visited Whitford Lake, an important area for waterfowl. Many were seen – when it wasn't snowing! The Lange farm near Westlock will be the site of a June 3rd field trip. On June 9, along with the Edmonton Bird Club, a field trip is planned to the boreal forest near Spruce Island Lake, NE of Jarvie. A weekend of June 15-17. Banff National Park will be the setting for a weekend field trip June 22-24, to observe birds and alpine flowers. The weekend of July 28-29 is the date planned for a trip to Cardinal River Divide. This should be a good time to see many alpine plants in bloom. The final summer field trip is to Sir Winston Churchill Provincial Park, near Lac la Biche, on August 18-19, to look for warblers and other early migrants.

J. Derek Johnson

Edmonton Bird Club

The Edmonton Bird Club has a number of publications available that may be of interest to naturalists intending to visit the Edmonton region, The following may be ordered from the Edmonton Bird Club, P.O. Box 4441, Edmonton, Alberta, T6E 4T5.

Birding Around Edmonton Series: 25 cents each

Field Checklists: 25 cents each

Please send a stamped, self addressed envelope with your order.

Birding Around Edmonton Series:

1. Birding Wabamun Lake and Environs, by G.R.A. Ebel and M. Cox
2. Breakfast With the Gulls: Clover Bar Disposal Site, by Ebel and Cox
3. Birding Alberta Beach and Area, by W. Horn
4. Birding in Kinnaird Ravine, by W. Horn
5. Birding in Whitemud Creek Park, by E. T. Jones
6. Beaverhill Lake – Mecca, by G.R.A. Ebel
7. Bird Watching at Hastings Lake, by E.O. Hohn
8. Birding at Egg Lake; Birding in the Goodridge Lake Area, by J. Lange
9. Birding in Edmonton's Capital City Park, by M.Cox and G.R.A. Ebel
10. Birding in the Whitford Lake Area, by M. Cox and G.R.A. Ebel
11. Photographing Birds, by W. Horn and T. Webb
12. Birding the Sloughs Near Beaumont, by F. Sitwell

Checklists by G.R.A. Ebel:

Birds of the Edmonton Area, A Field Checklist
Birds of Beaverhill Lake, A Field Checklist
Edmonton's Commonly Seen Birds

Calgary Field Naturalists' Society

The 1983-84 season continued for the C.F.N.S. with the following excellent slide shows and talks.

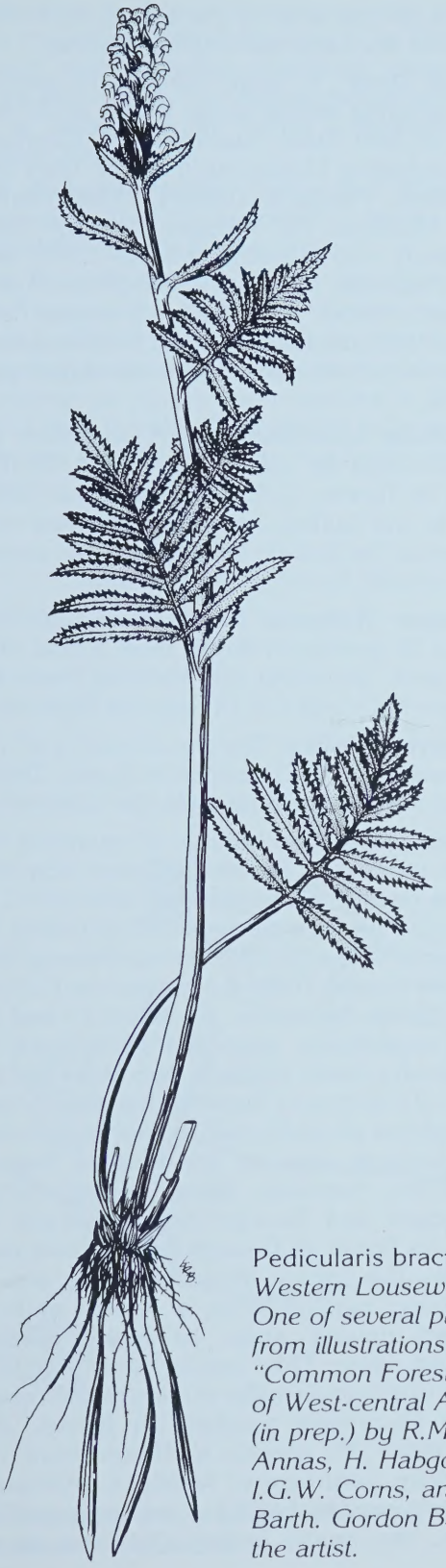
March – Cleve Wershler – Wildlife in Mexico.
April – Mike Jackson – Ecuador.
May – Peter Clarkson – Wolf and Elk Management in Alberta.

We have brought out two publications during this period, both of which cover bird sightings around the Calgary area.

1. Calgary Birds 1982 is a species by species account of bird sightings within a fifty-mile radius of Calgary. Some of the rarities are covered in detail and there is some discussion on the philosophy of records. We hope to produce this publication annually. The price for the 1982 book is $3.50.
2. A computer listing of *all* field sightings in the Calgary area. This publication is just a listing of the bird records as handed in and is not analysed in any way. The price varies according to the cost of production but is generally about $2.

Several of our members have been working together with the Calgary Regional Planning Office and a book has been published describing areas of ecological importance in our region. This is a most informative book which will be updated regularly. Price $5.

Kate Jones



Pedicularis bracteosa–*Western Lousewort. One of several plants from illustrations in the "Common Forest Plants of West-central Alberta" (in prep.) by R.M. Annas, H. Habgood, I.G.W. Corns, and G.R. Barth. Gordon Barth is the artist.*

Results of the 1983 May Day Count (Plants)

J. Derek Johnson

The following is a summary of the results of the botanical portion of the 1983 May Day Count, held May 28-29. The method of reporting continues that adopted in 1980 (Johnson 1981). Also included are observations from the FAN spring meeting field trip (May 22) to the Wagner Natural Area and the Clifford E. Lee Nature Sanctuary near Edmonton. The areas from which reports were received have been listed in approximate latitudinal order from south to north. Eighteen reports covering thirteen areas were received from the 1983 count. Seventy-seven participants reported 245 species in flower. The number of species reported in flower is slightly below average, but the number of participants is the highest ever for a May Day Plant Count, thanks to a class of students included in the Calgary report. The previous high was 75 in 1978. In general, the number of species recorded in flower was up in all areas of the province in 1983 when compared to 1982.

The spring of 1983 got off to a reasonably early start with warm, sunny weather in late April, but early May turned cool and plant development was slowed considerably. At the time of the count weekend, phenological development was expected to be about five days behind an average year. A surprise, however, was the number of normally later-flowering species (eg. *Linnaea borealis, Potentilla fruticosa, Pyrola asarifolia)* reported together with the expected "hangers-on" among the early-flowering species. *Pyrola asarifolia* is rarely reported in flower on the May Day Count weekend, but was included in the counts from three areas in 1983. The spring of 1983 was very dry over much of southern Alberta. Dry conditions are known to condense the flowering season and it is assumed that this was a contributing factor in the overlap of early and later flowering species.

That 1983 was a somewhat unusual year can be seen in the wide variety of comments

included with some of the count reports, such as, "the year was very slow" (Cypress Hills); "a very good year" (Calgary); "a disappointing count" (Yamnuska); "a surprisingly high number of species" (Edmonton); and, "a very late spring" (Fort McMurray).

Following is a list of observers, totals (1982 in brackets) and other pertinent remarks for each area.

1. Cypress Hills: This interesting and unusual area in southeastern Alberta was visited by Margaret Walker and Doug Macdonald. They reported a total of 44 species in flower from the Elkwater and Reesor Lake areas.

2. Calgary: Four reports, including 210 observers, were received from Calgary, listing a total of 78 (21) species in flower. Ena Spalding found 48 species in flower in Fish Creek Provincial Park. Don Stiles visited the Bow River below Queensland, recording 32 species in flower. Olga Droppo, Don Stiles and a class of 16 students thoroughly covered the Bowmont Park area in the western part of the city, discovering 44 species in flower. Cathy Osborne made her usual pilgrimage to Nose Hill and vicinity, finding 36 species in flower.

3. Yamnuska: As per usual, the greatest number of species recorded in flower in a single report comes from the Yamnuska area with 79 (51). Observers included Janet Amy, Joyce and Keith Cole, Diane and Mike McIvor, Bunty Nelson and Bob and Mary Smith.

4. Banff-Canmore: In addition to the annual survey along the Banff-Canmore corridor, this year's effort by the Bow Valley Naturalists included a visit to Wind Ridge east of Canmore. Some of the 1988 Winter Olympics' skiing events are planned for this area. A total of 70 (42) species were observed in flower. Joyce and Keith Cole, Diane and Mike McIvor and Bob and Mary Smith were the participants.

5. Wildlife Reserve of Western Canada: This is the first year that a May Day plant count has been compiled for this area, centered on the settlements of Bottrel, Water Valley and Dogpound northwest of Calgary. Three observers, Donna Anderson, Reid Barclay and Stuart Johnston, noted a total of 48 species in flower.

6. Dry Island Buffalo Jump Provincial Park: A total of 35 species were reported in flower from this area by Pat Doyle, Rick Hurdle, Derek Johnson and Elaine Schiewe.

7. Red Deer: A large number of participants, covering several areas within an 80 km radius of Red Deer, submitted a summary report including 73 species in flower. Gary and Ann Fabris, Margaret Glabais, Helen Harris, Bertha Hickling, Pat McIsaac, Sharron Murphy, Sandy and Dorothy Murray, Carol and Eldon Neufeld, Maxine O'Riordan, Myrna Pearman, Walter and Nellie Savage, Fred Schutz, Hazel and Bryan Shantz and Kerry and Marjorie Wood were among the numerous participants.

8. Buffalo Lake-Stettler: A summary report submitted by Lloyd Lohr listed 59 (55) species in flower. C.D. Bird made his usual survey in the Buffalo Lake Narrows area with members of the Buffalo Lake Naturalists contributing records from the Stettler area.

9. Jasper National Park: Derek Johnson reported 20 species in flower from a brief visit to the park, including the Icefields Parkway, Sunwapta Falls and the Yellowhead Highway.

10. Drayton Valley: The annual survey of this area revealed 55 (52) species in flower. Derek Johnson and Steve Zoltai were the observers.

11. Edmonton: The honour of reporting the greatest number of species in flower from any one area goes to Edmonton this year with 112 (65). Four reports were received including 11 observers. During the FAN spring meeting field trip to the Wagner Natural Area and the Clifford E. Lee Nature Sanctuary, a total of 27 and 20 species respectively, were reported in flower by Alice Hendry,Derek Johnson, Don Stiles and Liz Stinson. Alice Hendry, Julie Hrapko and J. Cantafio reported an additional 16 species in flower on subsequent visits to the Wagner Natural Area. Peter Assmann, Dave Cuthiell, Sylvia L'Hirondelle and George Pegg observed 73 species in flower at George Pegg's farm near Glenevis. The habitat diversity of this area is noteworthy, ranging from a variety of little disturbed natural areas to highly altered cultivated land. This habitat diversity contributes to a high diversity of species and consequently to greater numbers in flower. Jim Lange listed 29 species in flower from the Lange farm northwest of Westlock. (Although this area is outside the 80 km radius around Edmonton, the report is included here as no

species were listed that were not also found in the immediate Edmonton area.) The Edmonton count also includes incidental observations from Edmonton, Fort Saskatchewan and 10 km E of Beaumont by Sylvia L'Hirondelle and Derek Johnson.

12. Grande Prairie: Gavin and Ellen Craig recorded 51 (35) species in flower in the Wembley-Grande Prairie area.

13. Fort McMurray: Spring was off to quite a late start in this northern Alberta community with a total of only 46 (63) plant species being reported in flower. This was the only area of the province to report fewer species in flower in 1983 than in 1982. Participants included Sheila Bloxam, Marion Horrocks, Pat Keeler and Lydia Zingle.

Because of the increased costs of publishing the *AN* in its new format and the rather lengthy and technical nature of the May Day Count report, only a summary of the results has been presented here. Readers interested in obtaining complete tabular results of the plant count may obtain them free of charge by writing to the Curator of Botany, Provincial Museum of Alberta, 12845-102 Avenue, Edmonton, Alberta T5N 0M6.

Literature Cited

Johnson, J.D. 1981. Results of the 1980 May Day Count (Plants). Alta. Nat. 11: Suppl. No. 1: 34-48.

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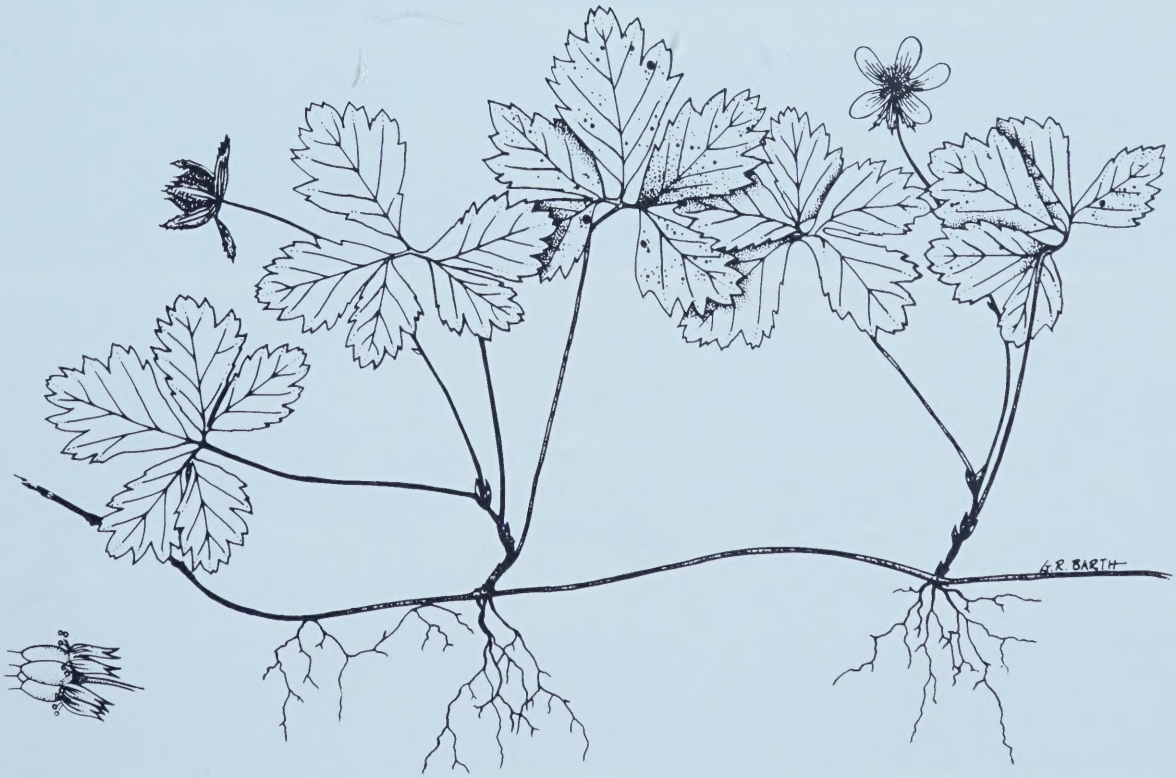
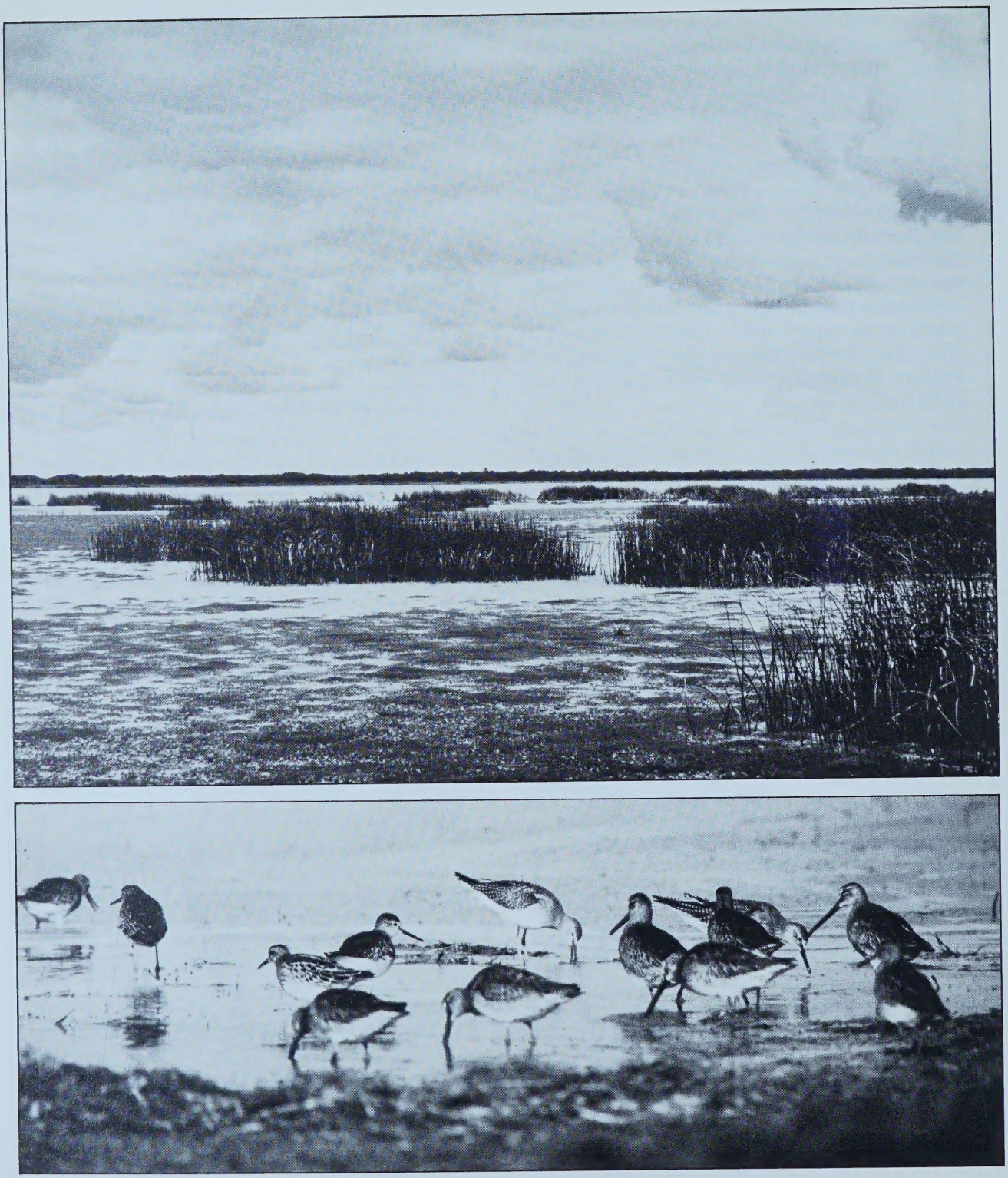
5320-122 Street, Edmonton, Alberta T6H 3G5



Rubus pedatus – *a trailing species of raspberry, which grows in shady coniferous woods of the mountains and foothills.*



The shores of Beaverhill Lake, recently designated as a National Nature Viewpoint, are a favourite destination for Edmonton birders during the May Count. The photo shows three species of migratory waders common to the area.

Photos: Dick Dekker

1983 May Species Count: Birds

Allen N. Wiseley

The May Species count in 1983 was held under unusually pleasant if not too hot conditions for a change. The high 20's were reached in nearly all of the count areas for the entire weekend and precipitation was not felt anywhere.

Participation among the main count areas was higher than last year. All of the 9 main count areas participated. Red Deer fielded the most observers (33), followed by Lethbridge (31) and Stettler (30). Coverage of local areas is believed to have been good due to the weather. The provincial data summary is as follows: 150 observers, 600 team hours, total bird species 219 (major count areas), 222 (all counts), 61,500 total birds.

Although there was a 39% decrease in total team hours from last year, there was only a 1% decrease in total species reported. Efficiency also seemed greater in that the total numbers of birds were 11% higher (61,500 vs 55,500) in 1983 than 1982. Willow Flycatcher (Yamnuska) and Wild Turkey (Claresholm) were new birds to the count this year.

Calgary again took the honors for most species recorded on the May Count weekend, with 169, one shy of their 1983 total. Edmonton was second with 155, followed by Fort McMurray (126), Red Deer (124), Grande Prairie and Lethbridge (tied at 105), Stettler/Buffalo Lake (86) and Banff and Yamnuska tied for last with 60 each. Red Deer had the most impressive increase over 1982 with a 72% increase in species reported, while Banff decreased 33% from 1982 to show the largest downturn. Yamnuska, Edmonton, Red Deer and Grande Prairie showed increases in species totals, while Fort McMurray and Calgary remained steady and Stettler and Lethbridge declined slightly.

Species totals showing changes from 1982 were many this year. Major increases were reported in Red-necked and Horned Grebes, Canada Goose, Gadwall, Barrow's Goldeneye, Killdeer, Lesser Golden Plover, Common Snipe, Sanderling, Least, Baird's and Pectoral Sandpipers, Northern Flicker, Yellow-bellied Sapsucker, Eastern Kingbird, Eastern Phoebe, Least Flycatcher, Western Wood Pewee, Horned Lark, Purple Martin, Hermit Thrush, Cedar Waxwing, Yellow Warbler, Red-winged Blackbird, Northern Oriole, Rose-breasted Grosbeak, Purple Finch, Rufous-sided Towhee, Savannah, Le Conte's, White-throated, Lincoln's and Song Sparrows, and Lapland Longspur.

Notably large decreases appeared in several species including Common Loon, Sandhill Crane, Black-bellied Plover, Long-billed Curlew, Stilt Sandpiper, Red-necked Phalarope, Franklin's Gull, Alder Flycatcher, Rough-winged Swallow, Swainson's Thrush, Tennessee Warbler and Chestnut-collared Longspur. Remarkably little change in numbers of hawks occurred from 1982 to 1983.

Several birds appeared that were not seen the previous year including Peregrine Falcon, Blue Grouse, Whimbrel, Red Knot, Least Sandpiper, Dunlin, Buff-breasted Sandpiper, Great Grey Owl, White-breasted Nuthatch, Cedar Waxwing, Black-throated Green Warbler, Rusty Blackbird, Cassin's Finch, White-winged Crossbill, Lark Bunting, Tree Sparrow, Harris's Sparrow, Lapland Longspur and Snow Bunting. Of those, Great Grey Owl and Lark Bunting had

The Northern Oriole (formerly Baltimore Oriole) nests commonly in the parklands.

Photo: Edgar T. Jones

only been reported one year of the eight that the count has been conducted.

Birds from the 1982 list that didn't show on the count weekend in 1983 include White-faced Ibis, Tundra Swan, Snow Goose, Wood Duck, Oldsquaw, Hooded Merganser, Semipalmated Plover, Ruddy Turnstone, Short-billed Dowitcher, Hudsonian Godwit, Red Phalarope, Mew Gull, Burrowing Owl, Saw-whet Owl, Hammond's Flycatcher, Varied Thrush, Nashville, Palm and Cape May Warblers, and Grasshopper Sparrow. The Semipalmated Plover had not been missed on any previous counts.

Interesting observations gleaned from the submissions included 40 and 51 White Pelicans in Lethbridge and Stettler respectively; a high count of 115 White-winged Scoters and 70 Barrow's Goldeneyes near Grande Prairie; 2 Peregrines that had nested in the Calgary Len Werry (AGT) Building; 20 White-rumped Sandpipers at Ft. McMurray; 3 Great Grey Owls near Calgary; 3 Calliope Hummingbirds from Red Deer; 62 Common Flickers at Calgary; 593 Least Common Flycatchers at Edmonton; 125 Western Wood Pewees (Calgary); a Scissor-tailed Flycatcher seen during the week prior to the count at Lethbridge; 2 Black-throated Green Warblers (Edmonton); a likely Townsend's Warbler at Grande Prairie; 6 Connecticut Warblers (Calgary); and several other large counts at Edmonton; 80 Rose-breasted Grosbeaks, 86 Song Sparrows, 98 Lincoln's Sparrows, 2582 Red-winged Blackbirds, and 204 Northern Orioles.

Among the other area submissions was a "Big Day" count from Medicine Hat by Phil Horch and Rob Gardner showing a substantial 123 species for a 24 hour blitz on June 2. Some unusual sightings included Wood Duck, Short-billed Dowitcher, Dusky Flycatcher, Three-toed Woodpecker, Bay-breasted Warbler and Grasshopper Sparrow.

The pattern for weather over much of Alberta in 1982-83 showed a milder and drier trend for the fall, winter and spring compared to that normally felt. May was cooler than usual until mid-month when high teens and 20's were reached regularly across much of the province. The last few days, including the count weekend, were baking under the sun across Alberta. Sharp declines in Black-bellied Plover, Stilt Sandpiper, and Red-necked Phalarope may indicate some influence of the drought conditions. Shorebirds had good numbers among some other species, notably the peeps, Baird's and Pectoral Sandpipers, Golden Plovers and some of the summer resident species (Killdeer, Snipe, Willet). However, some of this may reflect greater access to Beaverhill Lake and the concentrating effect of a very dry prairie. Many of the flycatchers, warblers and waxwings, usually some of the last migrant groups, were well represented.

The dryness of the prairies is not particularly apparent in the totals of waterbirds. Gulls seem to be the only group with consistently lower totals. Franklin's Gull apparently decreased the most.

Declines were seen in the Long-billed Curlew, Chestnut-collared Longspur and Rough-winged Swallow primarily in the Lethbridge area where the observer coverage was lower. Sandhill Crane decreases were principally from Fort McMurray, which had 44 the previous year (late flock?) and only 2 this year. The Tennessee Warbler after eruption in numbers the last few years may be in a decline stage now. It certainly seems to have a remarkable changeable status all over the province. The Swainson's Thrush declined chiefly in Lethbridge and Calgary, where migration seemed to be light and earlier in 1983. The Alder Flycatcher was well represented in 1982 at Red Deer, where counting effort in riparian habitat may have been greater than in 1983.

Common Loons declined notably from 1982, although numbers are not abnormally low for the May Species Count. Concern over this species has been sounded in a recent article in Audubon describing heavy winter mortality owing to possible effects of mercury poisoning. Extra effort should probably be made to monitor its numbers in Alberta.

On the positive side, trends of increases are welcome among several groups including grebes, ducks, geese, woodpeckers and sparrows. Forest and shrubland coverage must have been better in 1983, from the large increases seen in species such as flycatchers, woodpeckers, Yellow Warbler, Northern Oriole, Rose-breasted Grosbeak, Purple Finch and Rufous-sided Towhee. It also may reflect more experience among observers in separating species.

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Not all black bears are black. Brown, cinnamon and even white color phases have been reported in one litter of cubs. See story on page 56.

Photo: Dick Dekker

Game Farming in Alberta

Editor's Note: The following is taken from a press release put out by Alberta Agriculture. Present FAN policy is not to support widespread game ranching, particularly in view of the unclear regulatory plans of Alberta Fish and Wildlife as expressed in their recent policy.

Surveys carried out by the University of Alberta indicate that there is a good public support for a revision to The Wildlife Act, scheduled for the spring session of the Alberta Legislature, that will legalize the commercial production of game animals. However, opposition to this practice has been expressed by some naturalists and sportsmen.

Dr. Robert Hudson, association professor of wildlife productivity and management at the university, says the opposition stems mainly from an incomplete understanding of what game farming is and what it can offer. He points out that commercial game production involves the use of the province's wildlife resources in a way that will benefit farmers, native people and all Albertans.

Concern has been expressed by some that game farming will spell the end of the wilderness in Alberta. "It is true," says Dr. Hudson, "that predators, like the timber wolf, will have to be controlled, that some forage production and winter feeding will have to be provided and that access to public big game hunting will have to be controlled. For this reason I believe that game farming should be carried out on Indian and Metis land, where public access is already limited, on private land and where present agricultural practices have left little wildlife habitat."

He goes on to point out that it is also true that many of the white-tailed deer that are harvested in Alberta each year come from private land, but that it is only sound management to have non-hunted refuges scattered throughout the agricultural area to serve as restocking reservoirs for such animals. Both moose and deer are able to move freely over and under conventional game fences. And Dr. Hudson claims that if game farmers were permitted to raise wapiti, this species would again be seen in areas of the province where they have not been seen for more than one hundred years. He also points out that the resultant increase in pasture land from the commercial raising of game animals would mean a better quality of habitat for other wildlife species than is provided by cultivated fields.

Another concern expressed by both wildlife managers and sportsmen is that the commercial production of game animals could lead to widespread illegal dealings in wildlife products. Dr. Hudson says it must be recognized that the economic motive for such dealings already exists and will continue to exist regardless of whether or not a commercial game production industry is developed. Because a legal supply of wildlife products would stabilize prices, it should actually go a long way, in Dr. Hudson's opinion, towards reducing the incentive to deal in illegal products.

Then there are those who would argue that illegal products could be "laundered" through a formal marketing system. However, Dr. Hudson thinks this would be unlikely, at least in the case of venison, even under existing controls. He points out that the federal government's meat inspection regulations require that all animals must be inspected before they are slaughtered, and that problems that could arise from the illegal sale of antlers, for example, and breeding stock, could be avoided by well designed legislation.

Still another misconception that is held by some is that land which is suitable for the commercial production of game animals presently supports a high wildlife population. Although game farming may be viable on marginal lands, which presently provide the least disturbed wildlife habitat, the best areas for this type of farming are those that are classified as good agricultural land. Hence, most game farms will be established in these areas.

Footnote

A story appearing in the Edmonton Journal on Friday, May 4, 1984, revealed that reindeer are being bred on a Cardston ranch, at that time under virtual quarantine. Twenty-nine of the 100 plus reindeer on the ranch had recently died – possibly from a change in diet. The herd was being examined for warble fly and possible brucellosis problems. Wildlife Minister Don Sparrow acknowledged that under current provincial wildlife legislation the operation is probably illegal.

Editor

64 Blackpoll Warblers were netted and banded by Edgar T. Jones in his backyard overlooking White Mud Creek ravine in Edmonton city. Photo: Edgar T. Jones

Alberta Highs on 1982 Banding Report

As usual, the 1982 annual report of the Western Bird Banding Association, compiled by Philip M. Walters (*North Amer. Bird Banding* 8:74–87, 1983) shows an impressive number of highest species bandings by Albertans. Commentary this year was by Professor W. Ray Salt, a former bander who needs no introduction to *A. N.* readers (*NABB* 8:88), with some additional summary analysis by the undersigned (*NABB* 8:89–90). Species with highest totals from Alberta were: American White Pelican – 300 (Gary Erickson), Double-crested Cormorant – 950 (Erickson), Northern Pintail – 846 (Bruce Turner), Blue-winged Teal – 779 (Turner), Swainson's Hawk – 66 (Alberta Fish & Wildlife: Erickson & D. A. Moore), Merlin – 30 (Alta. F & W: Erickson/Moore), Spotted Sandpiper – 5 each (G. R. A. Ebel; J. Cam Finlay), Willet – 1 (Edgar T. Jones), Semipalmated Sandpiper – 35 each (Ebel; Finlay), Northern Hawk-Owl – 1 (Alta. F & W), Downy Woodpecker – 15 (Finlay), Eastern Kingbird – 1 each (Finlay & 2 others), Eastern Phoebe – 1 (Jones), Yellow-bellied Flycatcher – 5 (Jones), Alder Flycatcher – 24 (Jones), Least Flycatcher – 66 (Finlay), Tree Swallow – 879 (Finlay), Bank Swallow – 2 (Finlay), Purple Martin – 472 (Finlay), Blue Jay – 22 (Finlay), Common Crow – 52 (Finlay), Black-capped Chickadee – 175 (Finlay), Boreal Chickadee – 7 (Finlay), Gray Catbird – 3 (Finlay), Veery – 1 each (Jones & 1 other), Mountain Bluebird – 1495 (Finlay), Cedar Waxwing – 61 (Finlay), Solitary Vireo – 10 (Jones), Red-eyed Vireo – 56 (Jones), Philadelphia Vireo – 4 each (Finlay; Jones), Black-and-white Warbler – 13 (Jones), Tennessee Warbler – 281 (Jones), Magnolia Warbler – 16 (Jones), Black-throated Green Warbler – 3 (Jones), Bay-breasted Warbler – 1 each (Finlay; Jones; 1 other), Blackpoll Warbler – 64 (Jones), Ovenbird – 70 (Jones), Northern Waterthrush – 17 (Jones), Connecticut Warbler – 5 (Jones), Mourning Warbler – 13 (Jones), Canada Warbler – 2 (Jones), American Redstart – 80 (Jones), Northern (Baltimore) Oriole – 18 (Jones), Western Tanager – 30 (Jones), Rose-breasted Grosbeak – 13 (Jones), Common Redpoll – 416 (Finlay), LeConte's Sparrow – 1 (Jones), Sharp-tailed Sparrow – 1 (Jones), Dark-eyed (Slate-colored) Junco – 300 (Jones), American Tree Sparrow – 27 (Finlay), Chipping Sparrow – 275 (Jones), Clay-colored Sparrow – 18 (Finlay), and Swamp Sparrow – 6 (Jones).

Martin K. McNicholl.

NATURALISTS BOOKSHELF

Prairie Wildflowers

An Illustrated Manual of Species Suitable for Cultivation and Grassland Restoration

by R. Currah, A. Smreciu and M. Van Dyk. Illus. by J. Maywood. 1983. University of Alberta Devonian Botanic Garden, Edmonton. 300 pp. $14.95 paper.

This publication is an indexed manual to prairie wildflowers which have potential for reclamation, restoration and more generally horticultural purposes. A total of 130 species are included. Its focus is primarily southern Alberta, but it does have applicability to a wider area. The impetus for the publication arose in 1979 when the Devonian Botanic Garden was approached by Alberta Environment with a request for information concerning the use of native wildflowers in restoring certain disturbed areas in southern Alberta. Alberta's native wildflowers have been virtually unexplored for their reclamation potential. This publication presents an annotated summary of the results of a three year project to study the use of native plants for horticultural and restoration purposes.

The publication is directed toward three main groups: those who are directly involved in selecting sites for revegetation with native species; those needing information on what recommended species look like and how to cultivate and grow them; and finally, to the general public to guide them in developing and maintaining collections of native species as garden plants. The latter group in particular should find the book most useful.

In the main body of the book species are treated alphabetically by scientific name. For each species a fairly comprehensive listing of common names follows. An index by common name is included as Appendix 1. Documentation for each species is listed under five main headings. Under the section headed Description, information is divided into twelve categories: Growth Habit, Height, Form, Spread, Leaves, Stems, Inflorescence, Flowers, Fruit, Seed, Undergrowth Part and Phenology. The information given is slanted toward selection for propagation and establishment on a given site rather than strictly as an identification

Arctostaphylos uva-ursi– *Common Bearberry or Kinnikinik grows commonly throughout Alberta in dry pine woods on exposed hillsides and rocky slopes. Its berries were used in pemmican by early natives.*

manual. A glossary of botanical terms is provided as Appendix 2. It should prove useful to those unfamiliar with botanical terminology. Under the Habitat and Distribution section relevant information is included for each plant on such aspects as Habitat, Aspect, Soils, Symbioses, Moisture Regime, Occurence in Southern Alberta, Distribution, Common Associates, Range in North America and Range Value. Information included under Propagation covers Seed Set in the Field, Germination, Seed Pretreatments, Vegetative Propagation and Commercial Sources. Addresses for commercial sources are listed in Appendix 3. Unfortunately most of them are in the U.S. The section covering each species concludes with Further Information (including fungous diseases) and a list of References/Illustrations where readers may find additional or specific information not included in this publication. Immediately following most entries is a line drawing of the taxon. In Appendices 4, 5 and 6 species are listed according to moisture requirements, flower color and flowering period, respectively. The bibliography includes a fairly comprehensive listing of relevant references.

On reading this publication one is immediately impressed by the wealth of information presented. At times it is almost overwhelming. Information on the suitability of native Alberta plants for reclamation and horticultural purposes is definitely limited. This manual will go a long way toward filling in some of the gaps. If only it could have included a larger area of the province. The line drawings are one of the book's assets. However, the amount of detail shown in some illustrations leaves something to be desired. Some indication of scale should be given with the drawings. Some are of limited value as an aid to identification. I found one or two to be possibly even misleading, but on the whole the quality is quite good. It is too bad that all species could not be illustrated, however, this was not the primary intent of the project.

This book accomplishes its stated goals well and it will find ready use for its intended purpose. Despite its southern bias, naturalists will find it to be an excellent illustrated supplement to many an identification manual. If for no other reason I would recommend it as an addition to any library.

J. Derek Johnson

Rubus parviflorus – *Thimbleberry or Salmon Berry is a shrubby mountain species that grows at the edges of woods and thickets, and produces berries with a rather tart taste.*

Weeds of Alberta

Compiled by W.A. Stearman. 1983. Weed Control and Field Services Branch, Alberta Agriculture, Edmonton. 209 pp. $8.95 paper.

This illustrated volume begins by defining a weed simply as "a plant growing out of place". It then continues to classify weeds on the basis of longevity: annuals (summer or winter), biennials or perennials (non-creeping and creeping types). The 8½ x 11" format places all color plates and photographs on the right hand page. Included are illustrations of the whole plant, flowers and seeds. Some of the illustrations are actual photographs prepared by Alberta Agriculture while others are plates of drawings prepared by the Saskatchewan Department of Agriculture. An interesting feature of the photographs is the novel use of an alfalfa seed for scale. The facing page provides written information on the species. For each species the following information is included: Other Names, Origin, Habitat, Description, Agricultural Concern and Weedy Nature. The plant families are arranged alphabetically by common name with the individual species listed alphabetically by common name under each

family. This arrangement diverges from tradition and may be disconcerting to some, but it is generally fairly easy to follow. A complete index of both common and scientific names is included at the end of the manual. A total of 93 species are treated in the manual.

Weeds are a group of plants normally neglected by naturalists. However, they can be interesting and some are even attractive were it not for the fact that they are "growing out of place". The information in this publication is interesting, well presented and helpful. If nothing else it makes one more aware of this group of plants. I especially liked the multitudinous listing of common names. Some of them are quite exotic and many I had never heard of before. The photographs and plates are generally of excellent quality and will prove useful as aids to identification. The use of an alfalfa seed for scale in the photographs of seeds is certainly an original idea, but immediately two questions spring to mind: 1) How big is an alfalfa seed?, and 2) Are all the alfalfa seeds used in the photographs the same size? I would think a more accurate indication of scale is needed, not only for the seeds, but also for the whole plant illustrations as well. The habitat information provided is generally good, but in the case of *Delphinium glaucum* and *Chrysanthemum leucanthemum* it is rather narrow and incomplete showing the agricultural bias of the publication. By the time a person is finished reading this manual they will certainly know that most weeds are "prolific seed producers". This phrase is used to the point of overkill in the "Weedy Nature" section of the species descriptions.

One of my concerns with the publication is that there seems to be a considerable amount of waste space. I fail to see the need for an entire page of "Notes" at the end of each family heading on a separate page. No species description takes up a full page, so the family heading could easily be placed at the top of the page with the first member of that family. This would make the manual more portable and would not detract from its readability.

My initial reaction to this manual was positive and this feeling was strengthened as I read through it. I would heartily recommend it to anyone interested in weeds and especially to those who have always felt intimidated by this group of plants.

J. Derek Johnson

Petasites palmatus – *Palmate-leaved Coltsfoot grows in wet places and is common in woodlands.*

Recent Publications on the Natural History of Alberta

Compiled by David M. Ealey and Martin K. McNicholl

SPECIAL PUBLICATIONS: CASTLEGUARD CAVE AND KARST

Ford, D.C. (ed.). 1983. Castleguard Cave and Karst, Columbia Icefields area, Rocky Mountains of Canada: A Symposium. Arctic and Alpine Research. 15(4).

This special publication includes the following 11 articles.

Atkinson, T.C., P.L. Smart and T.M.L. Wigley. Climate and Natural Radon Levels in Castleguard Cave, Columbia Icefields, Alberta, Canada. pp. 487-502.

Atkinson, T.C. Growth Mechanisms of Speleothems in Castleguard Cave, Columbia Icefields, Alberta, Canada. pp. 523-536.

Ford, D.C. The Physiography of the Castleguard Karst and Columbia Icefields area, Alberta, Canada. pp. 427-436.

Ford, D.C. P.L. Smart and R.O. Ewers. The Physiography and Speleogenesis of Castleguard Cave, Columbia Icefields, Alberta, Canada. pp. 437-450.

Gascoyne, M., A.G. Latham, R.S. Harmon and D.C. Ford. The Antiquity of Castleguard Cave, Columbia Icefields, Alberta, Canada. pp. 463-470.

Gascoyne, M. and D.E. Nelson. Growth Mechanisms of Recent Speleothems from Castleguard Cave, Columbia Icefields, Alberta, Canada, Inferred from a comparison of Uranium-series and Carbon-14 Age Data. pp. 537-542.

Harmon, R.S., T.C. Atkinson and J.L. Atkinson. The Mineralogy of Castleguard Cave, Columbia Icefields, Alberta, Canada. pp. 503-516.

Holsinger, John R., John S. Mort and Anneliese D. Recklies. The Subterranean Crustacean Fauna Castleguard Cave, Columbia Icefields, Alberta, Canada, and its Zoogeographic Significance. pp. 543-549.

Roberge, Jean and Daniel Caron. The Occurrence of an Unusual Type of Pisolite: The Cubic Cave Pearls of Castleguard Cave, Columbia Icefields, Alberta, Canada. pp. 517-522.

Schroeder, J. and D.C. Ford. The Antiquity of Castleguard Cave, Columbia Icefields, Alberta, Canada. pp. 451-461.

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